APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,867	01/29/2004	David James Seal	550-504	2628

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EXAMINER
COLEMAN, ERIC

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/765,867	SEAL ET AL.
	Examiner	Art Unit	
	Eric Coleman	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-51* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-51* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1-7,16,17,18-24,33,34,35-41,50,51 are rejected under 35 U.S.C. 102(b)

as being anticipated by Grochowski (patent No. 6,353,883).

3.   Grochowski taught the invention as claimed including a data processing ("DP")

system comprising(as per claims 1,18,35):

        a) Data processing logic (305) operable to perform data processing operations

(e.g., see fig. 3a);

        b) Instruction decoder (310) operable to decode program instructions to control

the data processing logic to perform the data processing operations (e.g., see fig. 3a),

wherein the instruction decoder is responsive to a predication instruction to control the

data processing logic to either execute or not execute one or more associated program

instructions independence upon one or more condition states of the apparatus for

processing data set by execution of one or more program instructions other than the

predication instruction (e.g., see fig. 3a,3b,5,6 and col. 2, lines 14-67 and col. 3, line 1-

col. 4, line 63).

4.   As per claims 2,19,36 Grochowski taught that predication instruction controls a

plurality of associated program instruction (e.g., see col. 2, lines 14-67 and col. 3, line 1-

col. 4, line 63)[the prediction made in processing the predication instruction controls

whether subsequent instructions are executed or not].

5.   As per claim 3,20,37 Grochowski taught one or more program instructions are

non-conditional program instructions (e.g., col. 2, lines 14-67 and col. 3, line 1-col. 4,

line 63).

6.   As per claim 4,21,38 Grochowski taught one or more condition states comprise

value of one or more condition flags (e.g., col. 2, lines 14-67 and col. 3, line 1-col. 4, line

63).

7.   As per claim 5,22,39 Grochowski taught wherein the one or more condition

states are evaluated once upon execution of a predication instruction and prior to

executing each associated instruction (e.g., col. 2, lines 14-67 and col. 3, line 1-col. 4,

line 63).

8.   As per claim 6,23,40, Grochowski taught one or more associated instructions

immediately follow the predication instruction (e.g., see col. 2, lines 14-67, and col. 3,

line 1-col. 4, line 63).

9.   As per claim 7,24,41 Grochowski taught the predication instruction is associated

with a condition matching block of one or more program instructions to be executed if

the one or more condition states match one or more predetermined conditions; and a

condition not matching block of one or more program instructions to be executed if the

one or more condition states do not match the one or more predetermined (e.g., see

figs. 3a,3b,6) [when the predicated instruction condition is true the block of instruction

following the predicated instruction are executed but when the predicated condition is

false the predicated instruction is treated like a NOOP this equivalent to wherein one or more no-op instructions are executed while the instructions following the predication instruction are flushed e.g., see col. 10, lines 2-16].

10.   As per claim 16,33,50, ,Grochowski taught one or more associated instructions specify different data processing operations when subject to the predication instruction (e.g., see col. 3, lines 1-64)[e.g., move instruction and add instruction].

11.   As per claim 17,34,51, Growchowski taught upon a programmable field within the predication instruction one or more associated instructions are blocked from making any changes to the one or more condition states (e.g., see col. 5, lines 10-col. 6, line 62).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12.   Claims 8,25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grochowski as applied to claims 1-7,16,17,18-24,33,34,35-41,50,51 above, and further in view of Henry (patent No. 6,233,676).

13.   As per claim 8,25,42 Henry taught the conditional branching instruction specifies one or more of a length of the condition matching block or one or more program instructions ; and the length of the condition not matching block or one or more program instructions (e.g., see fig. 4 and col. 10, lines 66-col. 11, line 63) .

14.   It would have been obvious to one of ordinary skill in the DP art to combine the

teachings of Grochowski and Henry. Growchowski and Henry were both directed toward

the problems of processing instruction sequences that contain conditional branching

(the predication instruction provides conditional branching by testing stored bits). One

of ordinary skill would have been motivated to incorporated the Henry teachings of the

branching instruction having the length of an instruction or block or instructions at least

to determine if the instructions to be branched to are within the instruction buffer (e.g.,

see col. 10, lines 66-col. 11, line 63 of Henry).

15.   Claims 9-11,26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Grochowski as applied to claims 1-7,16,17,18-24,33,34,35-41,50,51 above, and

further in view of Christie (patent No. 6,009,512).

16.   As to claim 9,26,43-45 Christie taught the predication instruction specifies the

one or more predetermined conditions (e.g. see col. 13, lines 1-23).

17.   As to claim 10,27,44 Christie taught the predication instruction includes one or

more fields each specifying if a respective associated instruction is to be executed or

not executed depending upon a comparison states of one or more condition states with

one or more predetermined states (e.g., see col. 13, lines 1-23).

18.   As per claim 11,28,45 Christie taught predication instruction includes a field

specifying each respective associated program instruction whether the one of more

condition states or a complement of the one or more condition states is compared with

the one or more predetermined states to determine if the respective associated

program instruction is executed (e.g., see col. 13, lines 1-23).

19.   It would have been obvious to one of ordinary skill in the DP art to combine the

teachings of Grochowski and Christie. Both references were directed to the problems or

processing predicated instructions.One of ordinary skill would have been motivated to

incorporate the Christie teachings of selectively indicating whether a condition or the

complement of the condition was to be used in a predicated determination at least to

provide an easier way to provide conditions for execution of the predicate instructions.

20.   Claims 12,13,14,29,30,31,46,47,48, are rejected under 35 U.S.C. 103(a) as

being unpatentable over Grochowski as applied to claims 1-7,16,17,18-24,33,34,35-

41,50,51 above, and further in view of Bosshart (patent No. 6,910,123).

21.   Bosshart taught predicated instruction counter register operable to store a

counter value (A0,A1) indicative of how many of the one or more associated program

instruction subject to the predication instruction have been executed (e.g., see col. 23,

line 26-col. 24, line 65).

22.   Bosshard taught executing one or more associated program instructions subject

to the predication instruction, where a cycle counter is used to determine when the

instructions that are annuled are completed. This prevents the taking of the branch.

Therefore one of ordinary skill would have been motivated to have the program counter

register continue to store an address corresponding the predication instruction during

execution of the annulled instructions (e.g., see col. 23, line 1-col. 24, line 65).

23.   It would have been obvious to one of ordinary skill in the DP art to combine the

teachings of Grochowski and Bosshart. Both references were directed to the problems

or processing predicated instructions. One of ordinary skill in the art would have been

motivated to incorporate the Bosshart teachings of processing predicates using a cycle counter for annulled instructions at least to more efficiently process predicated instructions.

24.   Claims 15,32,49, are rejected under 35 U.S.C. 103(a) as being unpatentable over Grochowski and Blandy as applied to claims 1-7,13,16,17,18-24,30,33,34,35-41,47,50,51 above, and further in view of Blandy (patent No. 6,886,094).

25.   Blandy taught exception handling circuit operable upon occurrence of an exception to store the counter value and upon completion of the exception to restart execution starting at a program instruction pointed to by the counter value (e.g., see col. 8,line 1-col. 10, line 64).

26.   It would have been obvious to one of ordinary skill in the DP art to combine the teachings of Grochowski and Blandy. Both references were directed to the problems or processing predicated instructions. One of ordinary skill would have been motivated to incorporate the Blandy teachings of storing the program counter upon encountering an exception at least to provide for returning the correct address after returning from an exception.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shlansker (patent No. 6,023,751) disclosed a computer system for evaluating predicates (e.g. see abstract).

Hwu (patent No. 6,640,315) disclosed a system for enhancing instruction level parallelism (e.g., see abstract).
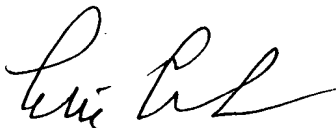
Blaner (patent No. 5,659,722 disclosed a system with multiple condition branching (e.g,. see abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Coleman whose telephone number is (571) 272-4163. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EC

ERIC COLEMAN
PRIMARY EXAMINER